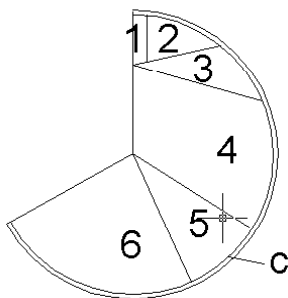# Application Data Sheet

Gundrill

Gundrills are specially used to drill deep holes with a ratio depth to diameter bigger then 6 up to 120. This high performance tool can drills holes in one step and after the operation there is no need to calibrate the hole.

- Over 6 surfaces can be ground or sharpened with the standard software

- The chamfer follows exactly the irregular way of the surface in order to produce a constant width.

A suitable conception of the Grinding Machine and a small slot on the side of the machine allows to load and unload the tool from the backside of the A-Axis through the A-Axis and through the clamping system.
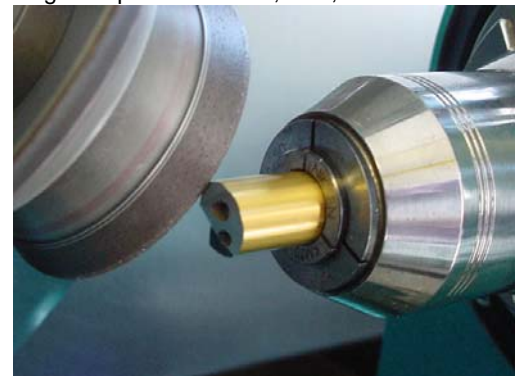

2 Grinding Technology

Wheels for grinding Carbide Gundrill:
Face and chip brake operation: 11V9, D76, d= 100mm
Flute operation: 1A1, D126, d=125mm
Regrind operation: 12V9, D76, d=125mm

Feed:
Face 1 and 2: 80-200mm/min
Face 3 until 6: 60-150 mm/min
Chip break: 100-250 mm/min
Flute for regrind: 100-150 mm/min
Flute for production: 60-80 mm/min

1 Clamping long Gundrills is simple

Schneeberger developed a simple fixture for even very long Gundrills. We suggest to use the following holder:

TECHNOLOGY FOR TOOLING

3 Programming
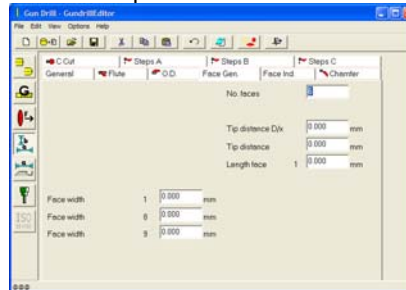
Only a few step is needed to make a Gundrill program

As shown in the following picture, it's a simple thing to provide the program with all necessary information of the Gundrill.
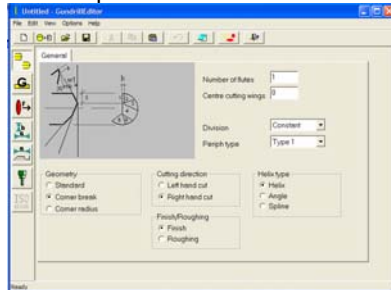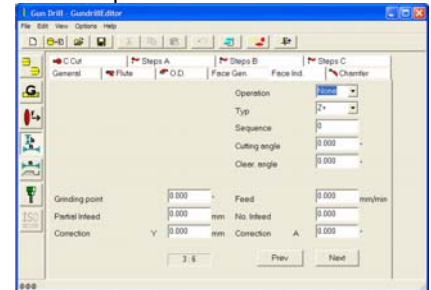
| First Step	Second Step	Third Step
Enter the diameter of the Gunddrill	Please fill all relevant face geometry information in the fields	For each face operation the relevant parameters must fill out in the program fields.

4 Cycle time for reshape Gundrills

Tool specification

Diameter: 15mm, 6 Surfaces, Carbide

Operations		Face 1	Face 2	Face 3	Face 4	Face 5	Face 6	Chamfer
		2	2	2	2	2	2	1
Feed [mm/min]	2000	120	120	120	120	120	120	90
Power [kW]		1	1	1	1	1	1	1
Cutting velocity [m/s]		16	16	16	16	16	16	24
Wheels								
Grinding time [s]	21	3	3	4	7	7	7	23
Total cycle time [s]	**1 Min 15s**							

The mentioned cycle times are indicative. The material to be ground, other grinding wheels and other coolants can influence the cycle times considerably.

Machine and Software Requirements

Machines: 5 axes CNC grinder: NORMA CFG

Control: Fanuc 160i

Coolant: Water soluble, pressure 6 – 7 bar

Software: Quinto NT

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